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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,289	02/23/2004	Jeffrey D. Mullen	JDM/003	2077
32733	7590	03/07/2006	EXAMINER	
JEFFREY D. MULLEN 350 WEST 43RD ST., APT. 5H NEW YORK, NY 10036			BUDD, MARK OSBORNE	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	<b>Application No.</b> 10/785,289	<b>Applicant(s)</b> MULLEN, JEFFREY D.	
	<b>Examiner</b> Mark Budd	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2006.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☒ Claim(s) 12-15 is/are allowed.  
 6) ☒ Claim(s) 1-11 and 16-20 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 2-7-06  
 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_

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Claims 1,8 and 9 are rejected to hundred 35 USC 102 as being anticipated by Kushner.

Noting figure 2, Kushner teaches a piezoelectric layer #13 at least one guide tooth #14 and a guide frame #10. Re: claim 8 note that the piezoelectric element has its deflection limited by the portion of the cavity located below the piezoelectric element.

Regarding claim 9, please note that the metal electrodes on the surface of the piezoelectric element must be flexible to allow operation of the device.

Claims 2,3, 5 and 7 are rejected under 35 USC 103 as unpatentable over Radice for the specific reasons set forth in the previous office action (8-18-05) it is clear from both the materials used (for example PVDF), the thickness of the materials and the mode of operation (column 3 line 47-55) that Radice teaches a flexible device. Claims 4 and 6 are rejected hundred 35 USC 103 as unpatentable over Radice in view of McKnight.

These claims add that an energy storage device is coupled to to the piezoelectric generator this feature is not taught by Radice. However, McKnight teaches that a piezoelectric generator can be used in conjunction with an energy storage device such as a capacitor (#36, figure 9A) or a storage battery (figures 7, 8 and 9B). This permits a larger output from the device in a known and predictable matter. Thus, for at least this reason it would have been obvious to what of ordinary skill of the art to provide an energy storage device in the output of Radice.

Claims 16 and 17 are rejected under 35 USC 103 as unpatentable over Kushner. As previously noted Kushner teaches the structure of a single piezoelectric generator.

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However, it has long been held that the mere duplication of parts is considered to be within the skill expected of a rout[neer. Also (official notice taken-note for example: Kompanek and Radice of record) providing multiple pool plays electric generators in one integrated unit is already widely practiced in the art. Thus, provide multiple transducer elements as taught by Kushner would have been obvious to one of ordinary skill of the art.

Claims 18 and 20 are rejected under 35 USC 103 as unpatentable over Kushner in view of McKnight. Kushner teaches the piezoelectric generator but does not teach using the output charge a storage device and does not provide rectification of the output.

However, McKnight clearly teaches at a piezoelectric generator the advantageously use its output with a storage capacitor, rectifier circuit and or battery charger. The use of a storage capacitor allows for higher outputs for the piezoelectric element that would otherwise be achievable. Recharging a battery allows for piezoelectric element to act as a renewable energy source. Providing rectification ain't McKnight allows for protection and isolation of the individual plays electric elements. Thus, for at least each of these known reasons, it would have been obvious to one of ordinary skill in the art to provide Kushner with the output circuitry suggested by McKnight.

Claim 11 and 19 all are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See

MPEP § 2172.01. The omitted structural cooperative relationships are: the full cooperative relationship of the spring element with both the piezoelectric element and the frame element is not provided. That is, according to the original disclosure device is secure to two of these elements and located between them. These essential relationships are not stated in the claims.

Claims 12-15 are allowed.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Budd whose telephone number is 571-272-2019. The examiner can normally be reached on Monday-Thursday from 6 a.m. to 4 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg, can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Marky Budd  
Primary Examiner  
Art Unit 2834